VDH VIRGINIA DEPARTMENT OF HEALTH
Protecting You and Your Environment

Virginia Department of Health
Division of Health Hazards Control

P.O. Box 2448, 1500 East Main Street, Room 124
Richmond, Virginia 23218
Telephone (804)786-1763 FAX (804)786-9510

Frequently asked Questions on Potassium Iodide (KI)

What is potassium iodide?

Potassium iodide, or KI, is a salt, which is routinely added to table salt to make it "iodized." Potassium iodide is found in some foods, especially in seafood. It can be used as a supplement to evacuation and sheltering in the event of radioactive iodine release in a nuclear power plant accident.

What is the role of potassium iodide in a nuclear power plant accident?

Potassium iodide is a medication that, if taken in an appropriate dosage and in a timely manner, can block uptake of radioactive iodine by the thyroid gland and reduce the risk of thyroid cancer. Radioactive iodine is one of the major contaminants that could be released in a nuclear power plant accident. Exposure to radioactive iodine through ingestion or inhalation can increase the risk of developing thyroid cancer in humans. Children are more likely to develop thyroid cancer following exposure to radioactive iodine.

What is the thyroid?

The thyroid is a gland located in the neck, below the Adam's apple. It makes and stores hormones that help regulate heart rate, blood pressure, body temperature, and metabolism (the rate at which food is converted to energy). Thyroid hormones also help children grow and develop. The thyroid uses iodine to make its hormones.

How does potassium iodide protect against thyroid cancer?

The thyroid gland requires certain levels and forms of iodine to function properly. Too much or too little iodine in the thyroid gland can result in thyroid diseases. Most people get the iodine they need from foods, such as fish or iodized salt. The thyroid gland can store or hold certain amounts of iodine. When taken in proper doses, potassium iodide floods the thyroid gland with non-radioactive iodine so that inhaled or ingested radioactive iodine is not able to accumulate in the thyroid. Therefore, the risk of short term and long term harmful effects on the thyroid gland is reduced.

Does potassium iodide protect from all radiation releases in a nuclear power plant accident?

No. Potassium iodide protects only the thyroid gland and prevents absorption of radioactive iodine. It does not provide protection against other radioactive chemicals that may be emitted during a nuclear power plant accident. Potassium iodide also is not effective against direct gamma radiation that could result during a nuclear power plant accident.

What is the most effective protection against radiation?

The most effective protective measure against exposure to radiation and radioactive chemicals released during a nuclear power plant accident is sheltering or evacuation. **Taking potassium iodide is not a substitute for sheltering or evacuation.** Evacuation protects the whole body, including the thyroid gland, from all types of radiation and all possible exposure pathways.

When should potassium iodide be taken?

Potassium iodide is most effective if taken within a few hours before, during, or immediately after inhalation or ingestion exposure to radioactive iodine. If taken about 4 hours after exposure, its effectiveness is diminished to about 50 percent. About 6 hours after exposure to radioactive iodine, the protective action of potassium iodide is substantially reduced.
Taking potassium iodide is supplemental to sheltering or evacuation, not a substitute.

(Over)

How long should potassium iodide be taken?

One recommended dose of potassium iodide, if taken in a timely manner, is effective for approximately 24 hours. It should be taken daily until a risk of significant exposure to radioactive iodine no longer exists.

Is it safe to take potassium iodide?

The U.S. Food and Drug Administration (FDA) supports potassium iodide as a safe and effective method to block exposure to radioactive iodine. Treatment guidance from FDA suggests that the benefits of taking potassium iodide far outweigh the rare risk of serious side effects in a small number of people.

What are the side effects of taking potassium iodide?

Serious side effect incidence from a single, proper dose of potassium iodide is very low. Adults, especially those with known iodine allergy, are more likely than children to have serious side effects. The side effects include gastrointestinal disturbances, minor skin rash, and allergic reactions. In infants and children, a short-term change in thyroid hormones may occur, which only need to be monitored by a physician in case there is a need for thyroid hormone therapy. Other than the allergic reactions, other side effects would only occur after repeated or prolonged doses of potassium iodide.

Who really needs to take potassium iodide after a radiation release?

Infants, children, and pregnant or nursing women are at the highest risk of developing thyroid cancer after exposure to radioactive iodine and should be given first priority for treatment with potassium iodide.

Who should not take potassium iodide?

Individuals who are allergic to iodine should avoid taking potassium iodide. Persons with known thyroid diseases, such as Grave's disease, thyroiditis, and goiter, and individuals with dermatitis herpetiformis or hypocomplementemic vasculitis (rare skin conditions) should consult their physicians especially if repeated doses of potassium iodide are taken.

When should I take potassium iodide?

In the event of a nuclear power plant accident, the Virginia Department of Health and the Department of Emergency Management will advise people living within ten miles of a nuclear power plant on when and where they should receive their dose of potassium iodide. As with any medication, it is advisable to check with your physician or pharmacist before taking potassium iodide or before a nuclear power plant accident occurs.

How can I obtain potassium iodide?

The Virginia Department of Health is making one dose of potassium iodide available to people who live, work or visit within 10 miles of the Surry Nuclear Power Station located in Surry County and the North Anna Nuclear Power Station located in Louisa County. Potassium iodide also is available to the public for purchase without a prescription through Anbex, Inc. Anbex, can be contacted at (866) 463-6754 or by internet at www.anbex.com.

RECOMMENDED DOSAGE FOR POTASSIUM IODIDE

Adults over 18	130 mg – 1 tablet
Children over 3 years through 18*	65 mg – 1/2 tablet
Over one month through 3 years	32 mg – 1/4 tablet
Birth through one month	16 mg – 1/8 tablet

* Adolescents approaching adult weight (~ 150 pounds) should receive the full adult dose of 130 mg or one tablet.

Prepared by: Khizar Wasti, Ph.D.
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